EFFECT OF PSYCHOMOTOR TRAINING ON PSYCHOMOTOR ABILITY AND PERFORMANCE OF NOVICE BASKETBALL PLAYERS

A SYNOPSIS
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Chapter 1 Introduction

The psychomotor domain is largely concerned with the method in which we carry out physical movement, our level of coordination, and the manner in which we make effective use of various components of our motor skills. To gain these skills, practice is required, and practice may often be measured in terms of speed, precision, distance, methods, or approaches in execution. Therefore, psychomotor talents can range from simple actions such as digging a ditch or cleaning a window to more intricate activities such as physically controlling a piece of complicated machinery or dancing (Simpson, 1972). The seven categories are described in the following paragraphs, beginning with the behaviors that are the least difficult and progressing to the ones that are the most difficult. These components may be broken down into their constituent parts, which are as follows: perception, preparedness to act, directed reaction, mechanism, intricate overt response, adaptability, and origin.

The totality of motor abilities may be disassembled into their component parts, which are referred to as fine motor skills and gross motor abilities, respectively. These are the subsets of the larger category of motor skills. The phrase "gross motor skills" refers to the capacity to do motions that need the use of wide and vast groups of muscles, as opposed to "fine motor skills," which relate to the ability to perform motions that require the use of smaller groups of muscles. It is a term that is used to describe the actions that are performed with the aid of one's fingers and hands. In general, the vast majority of the skills need the utilization of a diverse range of muscle groups, and the nature of these muscle groups may be classified as either fine or gross. For example, in order to be able to run quickly and jump high, basketball players must make use of the massive skeletal muscles in their bodies. On the other hand, they make use of their fine motor talents when they dribble the ball or shoot it.

There are a number of studies that have been carried out by a range of researchers that have supported the concept of training psychomotor skills in laboratory settings. These investigations are leading to precise and accurate evaluations of experience and served to contribute to the limitation of the possibilities of variability in a person's performance as he advanced with the assistance of practice and training.

According to Singer (1975, 1980), the learning of psychomotor skills may be understood as the link between organismic and situational components that are essential for

achieving performance consisting of actions that are predominantly seen by movement. This definition is based on Singer's assertion that the relationship between these two types of components is necessary for achieving success. The acquisition of psychomotor skills falls under the purview of this term. P.S. activities involve touching, relocating, or otherwise manipulating another object while simultaneously retaining control of one's own body or any of its parts.

A method known as "part task," which splits the combined motor and cognitive domains in order to carry out particular types of training, is supported by the field of physical therapy. In the majority of situations, PS is constructed up of a wide array of distinct types of component skills.

It is not difficult to take the top spot as it is to keep it; this is why it is often considered the more difficult of the two goals. Players at the top level are required to participate in physical training to achieve the best potential level of performance. If you only engage in physical training, it will be very challenging, if not completely impossible, for you to achieve your maximum level of performance. A player at the highest level of badminton competition is forced to go through a significant number of unplanned actions and situations, which arise as a consequence of similar areas of many elements of physical fitness. In order to be successful at this level, a player must be able to adapt quickly to a wide variety of unexpected challenges. As a result, an appropriate PT is always necessary in order to either effectively maintain a joyful mood or effectively overcome challenges of this nature. When playing badminton at a high level, it is expected of a player to deliver the shuttlecock in such a way that it may begin an assault on the other player, while simultaneously protecting themselves in a safeguarding area where they may make a decision about how to respond to a counterattack from their opponent. This is done so that the player can maximize their chances of winning the match. In situations like these, it is necessary to have a high degree of mental and physical awareness, as well as the ability to react in an appropriate manner, sufficient coordination, and the capacity to assist in putting the skill into practice in the most effective manner possible. The demand for the development of the motor components is the most essential problem that PT has to solve.

Statement of the problem

For the study to be successful in accomplishing its goals, the research scholar will observe the effect that physical therapy (PT) has on the psychomotor ability and performance of novice basketball players during the study.

The present study is entitled as ***"Effect of psychomotor training on psychomotor ability and performance of novice basketball players"***

Objectives of the study

The objective of this research is to evaluate the effects of training on basketball players' psychomotor ability that is designed to increase certain abilities.

The investigator should keep an eye on the players' performances while they are undergoing psychomotor training to determine whether or not there has been any discernible progress in the players' overall level of play.

Delimitations

1. The participants of the research would be restricted to those who play basketball for LNIPE in Gwalior.
2. There will be a range of ages available, from 18 to 25 years old.
3. The focus of the study will be on the physical test and the effects that it has on basketball dribbling and shooting ability.
4. The training program of six weeks will serve as the circumscribed area for the investigation.

Hypotheses

The following hypotheses are generated after taking into consideration the results of the literature study that is carried out in conjunction with the research project. The following are some of them:

Hypothesis$_1$: The performance of a rookie player in basketball will have significantly improvement after a period of six weeks of physical training. This improvement will be significant to a considerable degree.

Hypothesis$_2$: After a period of six weeks of physical training, a beginner basketball player will see significant gains in their shooting skill as well as their ability to dribble the ball.

Hypothesis$_3$: After six weeks of physical therapy, there will be a significant influence on the psychomotor variables that the researcher has selected to study.

Definition and explanation of terms

Time/movement the mental activity of envisioning the results of a movement and creating an accurate prediction of how objects will move through space is an example of anticipation, which may be described as the mental exercise of imagining the outcomes of a movement. (Vienna Test System Manual).

The term "reaction time" refers to the amount of time that elapses between a stimulus and the impact that the stimulus ultimately has. ("The Oxford Dictionary of Medicine").

Footwork is a term that refers to the demonstration of a movement ability.

One definition of a motor skill is "any movement or activity that requires the use of muscles in the body." This definition covers a wide range of possible movements and activities. Walking and being able to cut things with scissors are examples of motor skills. The first is referred regarded as large motor abilities, while the second is referred to as fine motor skills. Fine motor skills entail the use of motions such as taking an object between the thumb and the finger or utilizing the lips and tongue to taste things, whereas gross motor skills require using the arms, legs, feet, or the entire body.

A person who has not yet started his career in the relevant field is also frequently referred to as a novice and a person who doesn't have any previous experience in his present line of work or scenario.

Significance of the Study

The following is a summation of the many applications that the findings of the research study will have in the future:

The results of the study will supply the basketball coaches with the knowledge they need to effectively structure their education for the novice players.

A comprehensive investigation on the psychomotor capabilities of basketball players will be carried out as part of this research project.

When they are ultimately assembled, the findings of the research study will aid trainers in building efficient plans for their training schedules, which may span a number of psychomotor skills. This will be the case regardless of whether or not the study will be successful.

The players will gain an advantage as a result of this in the sense that they will focus some of their practice time on developing their psychomotor abilities, which is precisely what they need to be doing in any case.

Chapter 2 Review of Related Literature

A research investigation on the sports of badminton and basketball was carried out by Poliszczuk (2009 & 2013) and Gierczuk (2012) respectively. He discussed the most accomplished competitors in the sports of taekwondo and wrestling. Through the utilization of VTS, he was able to observe a wide range of coordinating motor abilities and relate them to separate phases. The purpose of the study is to perform an examination into the numerous components of visual memory and visual pursuit, with a specific emphasis given on three different sports as the focal point of the analysis. The sports in question are called cricket, badminton, and basketball, respectively. Athletes of both sexes, male and female, will take part in the research that will be carried out with the support of the Vienna Test System, which will evaluate both visual pursuit and visual memory. This research will be aimed at better understanding the relationship between the two. A method of random selection was used by the researcher to pick sixty different athletes to participate in the study. The research looked at a total of sixty athletes, with thirty male athletes and thirty female athletes participating. The level of significance that was chosen was 0.05, and the kind of statistics that was utilized to analyze the data was called an analysis of variance using ANOVA. It was found that there was no significant difference between males and females in terms of either the visual pursuit or the visual memory variables. This was the finding. The researchers did not detect any statistically significant differences across the three different sports (that is, cricket, badminton, and basketball) when they evaluated the variables of visual pursuit and visual memory combined. In a similar vein, it was demonstrated that the gender-by-sports interaction impact was statistically insignificant.

In order to make comparisons between the Raichur and Kalaburagi districts, Suresh Sangolgi (2018) studied the psychomotor skills of high school basketball players in each of those districts. His subjects came from the Raichur and Kalaburagi areas. Because the researcher needed to accomplish the goals of the current study, he selected sixty (N=60) male individuals to take part as subjects in the investigation. The ages ranged somewhere between 13 and 15 years old, and they were chosen at random. Individuals who took part in the basketball competition held at the district level are the focus of this investigation here. The 50-meter dash was used as a variable in order to determine the subject's speed as well as their acceleration. In order to determine the degree of strength, a test consisting of push-ups was carried out. The ability to move quickly was evaluated through a test known as the Illinois

agility test. The stork balancing stand test was carried out so that one could evaluate whether or not there was balance. Running a distance of 800 meters allowed for an assessment of the participant's ability to maintain their cardiovascular endurance. The outcomes of the study suggested that there was a significant discrepancy in the levels of speed and agility displayed by high school basketball players hailing from the Raichur district and those hailing from the Kalaburagi area. The research was conducted in both regions. Furthermore, there was not a discernable difference between the test scores of high school basketball players from the Raichur region and those from the Kalaburagi area in terms of Strength, Balance, or Endurance.

In 2015, Praveen Kumar Mishra and Dr. Prabhash Puri carried out a study in which they compared the psycho-motor abilities of guys from India who participated in track and field to those of women who did not compete in the sport. The results of their comparison were published in the journal Sports Medicine. A total of one hundred athletes from various track and field events were chosen by the researcher to take part in the study. These athletes participated in the state level Track and Field championships, which were held in a number of cities and towns all throughout India. One hundred athletes were selected, with fifty of them coming from an athletic background (with an average age of 18.22 years) and the other fifty coming from a background other than sports (with an average age of 17.91 years). In order to assess the individuals in question and determine their level of hand-eye coordination, we put them through a test called the Mirror Drawing Test. The Nelson test was used to examine the girls' capacity to respond rapidly to a single stimulus. The results of the study showed that there was no obvious difference in the psychomotor capacities of track and field players whose moms were athletes and those whose mothers were not athletes. This was proved by the fact that there was no discernible gap between the two groups. Therefore, the conclusion that was arrived at was that there was not a significant difference in the psychomotor abilities of female track and field players depending on their origin as either a sports woman or a non-sports woman. This was the finding that was reached as a result of the research that was conducted.

Philip K. Hughes (2009) looked into whether or not there was a difference in certain assessments of groups of visual and psychomotor features of advanced, intermediate, and novice table tennis players. He found that there was no significant difference between these three skill levels. A number of different experimental visual tasks, such as detecting peripheral targets, saccadic latency, and dynamic visual acuity, were taken into consideration

while selecting the variables for this study. Specific Melbourne clinical functions such as static visual acuity, the size of the visual field, and coulometer balance were also taken into consideration. It was determined that the parameters that best represented psychomotor competence were the fundamental reaction time, the time it took to respond to a decision, and the time it took to move one's hand. Top level competitors, in comparison to less skilled competitors, had better dynamic visual acuity, a wider visual field, and superior recognition of peripheral targets; however, the magnitude, or practical significance, of these differences was not great, and individually accounted for less than 5% of population variance, as the study's final results revealed. In addition, these differences did not account for a significant amount of the population's variance. The psychomotor reflexes of the top level competitors were substantially quicker than those of the beginning players. The findings also suggest that the psychomotor characteristics might be an essential part of a test battery, and that this part of the battery could be used as a way for identifying whether or not players of table tennis have extraordinary talents.

Washington (1969) put up the idea of including a wall test into the badminton short serve. In addition to that, he was curious in the effect that wall practice had on how well players performed on the court. He settled on interviewing 179 female college students as subjects for his study. In order to verify the accuracy of the results of the two distinct wall tests, three distinct iterations of the French short serve test that included adjustments were carried out. The data that was analyzed revealed that the two selected wall tests had less validity (r =.40) and high reliability (r =.95); the end results of the tests with a restricting line were lower than on tests without a restricting line; and practicing on the wall test had not helped in improving court test performance. All of these findings can be attributed to the fact that practicing on the wall test had not helped improve court test performance. The conclusions of the study of the data formed the basis for each and every one of these discoveries.

Chapter 3 Research Methodology

This chapter details the procedures that will be implemented for selecting the participants, selecting the variables, constructing the training program, and giving the tests, as well as the statistical method that will be applied for this study. Additionally, this chapter discusses the statistical technique that will be utilized for this study.

Selection of subjects

In order to accomplish the goals of the current study, the researcher felt necessary to select 60 students from LNIPE, Gwalior using a random selection method. These 60 pupils, will be 30 males and 30 females, and will take part in a rehearsal for an upcoming basketball game. Theses pupils will be ranging in ages from 18 to 25 years old taking part in the activity. The individuals will have to go through one more round of categorization, during which they will be sorted into four groups, with 15 participants in each of the experimental and active control groups respectively. This is going to take place after the individuals have completed the last round of categorization.

Selection of variables

Following an analysis of the several pieces of literature that are connected together and that are relevant to this research study, the variables that are listed below will be selected for use in this inquiry.

Coordination of the senses and the muscles, an anticipation of time and its progression

Reaction-time

Performance Analysis and Criticisms

The participants will compete against one another in a range of games, and their overall performance will be rated according to the scores they earn in those activities. The criteria that have been established by the regulations of basketball will be utilized in the process of evaluating the efficacy of the numerous study topics. The total number of points that may be earned from each of the matches is going to be recorded and tabulated.

Training program

The exercise routine is going to be planned out suitably for a total of six weeks, and it is going to be carried out twice a week for a length of forty to forty-five minutes for each session.

Administration of test

Before carrying out the selected tests, the scholar conducting the research will have a discussion with the people who are taking part in the study, also known as the subjects. The several objectives and aims of the test will be reviewed with the test participants in order to ensure that they are well-prepared for the examination and have a clear understanding of what is expected of them. There will first be a screening done, so please be patient.

During the preliminary test, the group that will serve as the control will participate in an activity; however, they will not get any treatment; rather, they will be observed. The experimental group will get treatment for a total of six weeks, with sessions occurring three times each week for a duration ranging from twenty-five to thirty minutes each. The posttest will be carried out under the identical circumstances as the preliminary test, and it will be distributed to all of the different groups.

Statistical technique

For the purpose of this inquiry, the statistical technique known as ANCOVA will be applied, and the application that will be used will be SPSS 23.

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